

Application Number: 10/757,415 Filing Date: January 15, 2004 Attorney Docket Number: 04173.0441

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A simulation circuit pattern evaluation method, comprising:

designing an aggregate of simulation circuit patterns, which simulate a circuit pattern of a semiconductor integrated circuit, by combining plural geometrical structure defining parameters including at least any one of a dummy wiring group formation position and an existence of a dummy via hole, the plural geometrical structure defining parameters respectively having at least two states, in such a manner that the respective states appear the same number of times in the respective geometrical structure defining parameters;

forming the aggregate of simulation circuit patterns on a substrate; and evaluating the formed aggregate of the simulation circuit patterns.

2. (Original) The simulation circuit pattern evaluation method as set forth in claim 1,

wherein said forming includes forming the aggregate of the simulation circuit patterns on each of a plurality of the substrates with a process condition which is different for each of the substrates; and

wherein said evaluating includes separately evaluating the aggregate of the simulation circuit patterns on each of the substrates.

3. (Original) The simulation circuit pattern evaluation method as set forth in claim 1,

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wherein said forming is performed with a predetermined process condition; and wherein said evaluating includes evaluating a suitability of a circuit pattern of a semiconductor integrated circuit for the predetermined process condition based on the aggregate of the simulation circuit patterns.

4. (Original) The simulation circuit pattern evaluation method as set forth in claim 1,

wherein the geometrical structure defining parameters are parameters which define a geometrical structure of a wiring.

5. (Currently Amended) The simulation circuit pattern evaluation method as set forth in claim 4.

wherein the parameters which define the geometrical structure of the wiring further include at least any one of a wiring formation width, a wiring formation length, a via hole formation position, and a dummy wiring group formation position, a wiring group formation length and an existence of dummy via hole.

- 6. (Canceled)
- 7. (Canceled)
- 8. (Currently Amended) A manufacturing method of a semiconductor integrated circuit, comprising:

designing an aggregate of simulation circuit patterns, which simulate a circuit pattern of a semiconductor integrated circuit, by combining plural geometrical structure defining parameters including at least any one of a dummy wiring group formation position and an existence of a dummy via hole, the plural geometrical structure defining parameters respectively having at least two states, in such a manner that the respective

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states appear the same number of times in the respective geometrical structure defining parameters;

forming the aggregate of the simulation circuit patterns on each of plural substrates with a process condition which is different for each of the substrate;

detecting a process condition which is suitable for the aggregate of the simulation circuit patterns by separately evaluating the formed aggregate of the simulation circuit patterns on each of the substrate; and

forming the circuit pattern with the detected process condition.

9. (Original) The manufacturing method of a semiconductor integrated circuit as set forth in claim 8,

wherein the geometrical structure defining parameters are parameters which define a geometrical structure of a wiring.

10. (Currently Amended) The manufacturing method of a semiconductor integrated circuit as set forth in claim 9,

wherein the parameters which define the geometrical structure of the wiring further include at least any one of a wiring formation width, a wiring formation length, a via hole formation position, and a dummy wiring group formation position, a wiring group formation length and an existence of dummy via hole.

- 11. (Canceled)
- 12. (Canceled)
- 13. (Currently Amended) A test substrate, comprising:

an aggregate of simulation circuit patterns which is formed by combining plural geometrical structure defining parameters including at least any one of a dummy wiring

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group formation position and an existence of a dummy via hole, the plural geometrical structure defining parameters respectively having at least two states, in such a manner that the respective states appear the same number of times in the respective geometrical structure defining parameters, the aggregate of the simulation circuit patterns simulating a circuit pattern of a semiconductor integrated circuit.

14. (Original) The test substrate as set forth in claim 13,

wherein the geometrical structure defining parameters are parameters which define a geometrical structure of a wiring.

- 15. (Currently Amended) The test substrate as set forth in claim 14, wherein the parameters which define the geometrical structure of the wiring further include at least any one of a wiring formation width, a wiring formation length, a via hole formation position, and a dummy wiring group formation position, a wiring group formation length and an existence of dummy via hole.
  - 16. (Canceled)
  - 17. (Canceled)
- 18. (Current Amended) A test substrate group which is composed of plural test substrates respectively including an aggregate of simulation circuit patterns which is formed by combining plural geometrical structure defining parameters including at least any one of a dummy wiring group formation position and an existence of a dummy via hole, the plural geometrical structure defining parameters respectively having at least two states, in such a manner that the respective states appear the same number of times in the respective geometrical structure defining parameters, the aggregate of the simulation circuit patterns simulating a circuit pattern of a semiconductor integrated

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circuit, the aggregate of the simulation circuit patterns being formed with a process condition which is different for each of the test substrate.

- 19. (Original) The test substrate group as set forth in claim 18, wherein the geometrical structure defining parameters are parameters which define a geometrical structure of a wiring.
- 20. (Currently Amended) The test substrate group as set forth in claim 19, wherein the parameters which define the geometrical structure of the wiring further include at least any one of a wiring formation width, a wiring formation length, a via hole formation position, and a dummy wiring group formation position, a wiring group formation length and an existence of dummy via hole.
  - 21. (Canceled)
  - 22. (Canceled)